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ABSTRACT

This study examined conflictual interactions between adolescent girls and their mothers. Four levels of argumentation were distinguished according to theoretical notions about the development of adolescents' relationships with their mothers. It was assumed that in conflictual conversations with their mothers, adolescents express separation tendencies that are differentiated into self-assertion, de-idealization, defense of the territories of the self, and symmetry of interaction. The empirical analyses were based on 60 dialogues recorded from 30 dyads of female adolescents in 2 age groups from 12- to 14-, and 15- to 24-years of age. The dialogues were tape-recorded and transcribed. The results indicated that younger girls tried to weaken arguments of their mothers more often than older girls, while older girls strengthened their own position were able to modify it during the conversation more than younger girls. The expected dominance of preferential arguments in younger adolescents did not occur. Four argumentation patterns were identified: unilateral dominance; preference; criticizing; and construction of arguments. The results throw light on how adolescents transform their relationship to their mothers. (ABL)

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# ADOLESCENTS ARGUING WITH THEIR MOTHERS: AGE DIFFERENCES IN DIALOGIC BEHAVIOR

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# ADOLESCENTS ARGUING WITH THEIR MOTHERS:

# AGE DIFFERENCES IN DIALOGIC BEHAVIOR


## Summary

This paper is focussed on forms of argumentation in conflictual discourse between adolescent girls and their mothers. Four levels of argumentation are distinguished according to theoretical notions about the development of adolescents' relationship with their mothers. It is assumed that in conflictual conversations with mothers, adolescents express separation tendencies that are differentiated into self-assertion, deidealization, defense of the territories of the self, and symmetry of interaction. According to the main hypothesis, differential activation of these tendencies is dependent on the social-cognitive maturity of the adolescent. The empirical analyses are based on 60 dialogues recorded from 30 dyads of female adolescents in two age groups: from 12- to 14-, and 15- to 24-years. Arguments presented during conversation have been theoretically and empirically conceptualized along two dimensions: (a) The element of an argument which is being verbalized and (b) the function of the argument in the sequence of the conversation. Conflictual arguments are defined as reasons given by a person to support or weaken a goal or another argument. A conflictual argument is considered as containing the following cognitions as major elements: Facts, evaluations, connections, norms and preferences. Functions of an argument may include supporting, weakening, or modifying a goal or another argument of the speaker or the listener. The dialogues were tape-recorded and transcribed. Units of communications were determined and categorized using the Mannheim Category System. Reliability checks yielded satisfactory results. The hypothesis is confirmed in that younger girls tried to weaken arguments of their mothers more often than older girls, while older girls stengthened their own position and were able to modify it during the conversation more than younger girls. The expected dominance of preferential arguments in younger adolescents did not occur. The results show a clearer picture when hierarchical cluster-analyses are applied. Four argumentation patterns could be identified: Unilateral dominance, preference, criticizing, and construction of arguments. The results throw light on how adolescents are transforming the relationship to their mothers.

## 1. Aim of the study and theoretical framework

**Aim of the study.** In this study conflictual interactions are studied in order to get a look on the process in which adolescent-parent-relationships are transformed from unilateral to more reciprocal forms. It is assumed along with Smollar & Youniss (1989), Grotevant & Cooper (1986) and Steinberg & Silverberg (1986) that during adolescence the parent-child-relationship characterized by unilateral authority changes toward a more reciprocal one. Research indicates that both individuality and connectedness in relationship are important for its delelopment. The experience of symmetrical relationships in interactions with friends, peers, and siblings enables the adolescent to construct concepts of reciprocity, equality, and mutuality. Adolescents try to rebuild the structure of parental relationships according to these concepts (Youniss & Smollar, 1985). These characteristics are manifested in everyday interactions. In conflictual interactions, the transformation process from a complementary to a more reciprocal form of relationship should be visible most clearly in that they are a principal medium through which separation tendencies are expressed by the adolescent and can be fostered or hindered by the parent.

The focus of this study is on the question: How can the process of transformation of the relationship be described in terms of argumentation patterns?

**The development of argumentative motivations in adolescent-mother conflicts.** Children at the age of 5-years understand that the opponent in an argument holds a viewpoint which conflicts with their own and that this viewpoint impedes their achievement of a goal. Developmental research has shown that very young children are capable of argumentative behavior in rudimentary forms in some situations (Dunn & Munn, 1985; Stein & Miller, 1990). For a conflictual argumentative dialogue to take place, certain cognitive and social abilities are prerequisite. The parties need knowledge of the situation in question and of relevant facts and propositions; they also need the ability to make inferences. Being aware of the possibility to violate social norms, as well as of the need of justification and the ability to use knowledge shared with the opposer are social prerequisites.

Table 1 gives a synopsis of various proposals that have been previously made.

table 1

Various conceptions on the development of argumentative skills are presented in the literature (Berkowitz et al. 1987; Clark & Delia, 1982; Flavell et al, 1968; Keller, 1984; Miller, 1986; Selman, 1984; Selman et al., 1986; Stein & Miller, 1990). The conceptions differ along dimensions such as extent and center of explication, theoretical background, and the methodology used to examine argument skills. Recall and recognition procedures are used along with the production paradigm (Berkowitz & Gibbs, 1983), naturally occurring arguments (Shweder & Much, 1987) and arguments expressed in discussions on moral dilemmas (Berkowitz, 1985). The notion of successive differentiation of perspectives is frequently used as the basic concept (see the section on "levels" of table 1). Usually at a low level assertions are expected not to be justified at all or in very rudimentary form. At middle levels, reasoning is based on knowledge of social consequences; arguments are connected and counterarguments are taken into consideration. At higher levels the parties

broaden their scope to include the needs of others as well as their owns. Some authors add a final level of reasoning which reflects partly the notion of an ideal discourse in search for mutuality, truth, and justice.

The goal of the present study is to extend the conception. Distinctions among levels of argumentation are based on the conception of development of the parent-adolescent relationship. The motives of the parties are seen as the primary determinant of argument selection and argument presentation. We assume differences in the motivational systems of mothers and daughters. Drawing on the theory of individuation (Grotevant & Cooper, 1986) we assume that the daughter's motivational system is comprised of the following constructs:

a) *Self-assertion:* Adolescents want to express the legitimacy of their needs and preferences.

b) *Refutation:* Adolescents challenge their mothers' weaknesses by focussing on facts or on conclusions.

c) *Defense of the "Territories of Self":* Adolescents defend their possessions, rights, and decisions against control attempts of their mothers ("personal justifications", Smetana, 1989).

d) *Symmetry of Interaction:* Adolescents try to turn the asymmetry of parent-child interaction into symmetry.

The mother's main motivation in conflicts with her daughter is assumed to consist of the tendency to control the behavior of the daughter, either in monitoring (mothers want to be informed about intentions and behaviors of the daughter) or in influencing (mothers try to direct their behavior).

According to individuation theory, a binding motivation is posited for mothers and daughters. They intend (even in conflictual discourses) to maintain their relationship through showing respect of the other person, not hurting each other, and demonstrating conversational and argumentative cooperation.

In order to ground the motivational tendencies in terms of argumentative constructs and to operationalize them in discourse variables, two additional theoretical distinctions are made.

Arguments as means in a social conflict. We define dyadic interactive conflicts as situations in which two persons pursue goals they assume to be mutually exclusive. Both persons use interactive ressources in order to achieve their respective goals. This study centers on informal arguments as means in a dyadic interactive conflict. Informal arguments consist of a statement and are supported by reasons. In contrast to formal arguments informal arguments include references to norms, evaluations, and preferences. An argument is broken down in the following cognitive elements.

*Goal:* A goal is the aim the speaker seeks to justify by means of arguments in order to convince the opponent. A goal is not a part of the argument. The argument or reasons are given to substantiate the goal.

*Facts:* A fact is the conception of a verifiable event, that characterizes the situation in the opinion of the speaker. Facts are differentiated according to their reference: speaker, listener, both, and external world.

*Evaluation:* The speaker interprets a situation as positive (acceptable) or negative (unacceptable). Evaluations are further differentiated as positive or negative.

*Preference:* A preference is a choice of election or rejection of an action or object.

*Norm:* A norm is a proposition about rights or duties. They are differentiated in terms of territory, educational, social norms, norms of equality, and norms of responsibility.

*Connection:* A connection is a notion of a regularity that establishes a relation, mainly between facts. Connections are specified according to the reference of their antecedent as well as consequence part: speaker, hearer, both and external world.

The transition from a conflictual argument to the goal or to another argument refers to its plausibility. Since informal arguments are evaluated as sounding or not by the participants (Voss et. al., 1986) this element has not been included in this study.

**Argumentation in discourse.** Three types of functions of an argument in the discourse are distinguished:

1) **Strengthening functions:** a) *supportive argument:* utterance of an argument to justify the own position, b) additional argument: utterance of an additional argument to justify the position.

2) **Modifying arguments:** c) *modifying argument:* utterance that limits or qualifies an argument.

3) **Weakening arguments:** d) *objection:* weakens the argument of the partner by raising a new fact, e) *counterargument:* an argument which is incompatible with an argument of the partner.

**Levels of Argumentation in daughter-mother conflicts.** The notions developed in the foregoing three paragraphs are being combined in the conceptualization of the following four levels of reasoning.

*Level 1* (preference): In accord with the motivation of Self-assertion, the daughter argues mainly with preferential statements, using very few arguments to justify her claim, rejecting mothers' arguments or initiatives, or agreeing to them. The argumentation is egocentric, reference to norms is lacking, and the sense of responsibility is hardly developed.

*Level 2* (criticizing): Along with the tendency of Refutation, we assume that it is easier for daughters to criticize the argument of the mother than to build theri own consistent argumentation. The criticizing centers on facts in arguments of the mothers (less than on connections), daughters own explanations are inconsistent and repetitious, and their understanding of consideration is rudimentary.

*Level 3* (construction of arguments): Along with the tendency of Defending territories we assume that daughters at level 3 build their own position and debate self-reflexively. Arguments are supported by reasons. Reasons are elaborated in facts and connections. Explicit references to norms are visible. The ability to modify their own position is being developed.

*Level 4* (mutuality): Clear distinctions between the argumentative power of facts and norms are being made. The person is ready to differentiate and modify her position. Responsibility is accepted. The person rather than trying to win is searching for truth and justice.

## 2. Expected differences

Expectation concerning differences between younger and older girls have been stated according to three general principles: (a) Indicators of "Self-assertion" (e.g. preferences) and of "Refutation" (e.g. negative reaction to an argument) are expected to appear earlier than indicators of "Defense of the territories of the self" (e.g. norms) and "Symmetry of interaction" (low number of initiatives). (b) Utterances of preferences, evaluations and facts should be expressed in the lower age group more often. Connections, norms and reference to both partners as requiring higher social-cognitive abilites should appear more often in the higher age group. (c) Weakening arguments should appear earlier, they require minimal cognitive energy. Supporting arguments require more reasoning skills. To modify arguments the speaker needs the ability to combine different standpoints and to perceive a claim from various sides. It should be expressed more often in the older age group. The expected differences are depicted in table 2. Rather than as hyptheses these differences have the character of a heuristic scheme which sharpens thinking.

table 2

In using age as independent variable possible differences between adolescents will remain hidden. A large variability in conceptions of relationships, cognitive and social level as well as puberal status between subjects of same age is likely to occur. Therefore cluster analyses are applied in order to discover groups of adolescents whose argumentation styles follow the levels outlined above.

Mothers' should express their control tendency through initiatives and supporting arguments. They also are expected to adapt their argumentation style to their daughters', either using a complementary pattern (as with regard to initiatives-reactives) or producing coherence.

## 3. Method

**Subjects.** Thirty mother-daughter-dyads participated in this study. As criteria for inclusion in the sample daughter had to be at least 12 years old, live with the mother in the same household, and should not earn own money. The ages of the daughters varied between 12 and 24, with mean age of 15 years. The group with younger daughter (12-14 years) consisted of 17 dyads (mean age 12.9), the group with older daughter (15-24 years) consisted of 13 dyads (mean age 18.3). The age of the mothers varied between 31 and 54 years with a mean of 43 years. In one case there were no other members besides the dyad in the family, in a second case the family consisted of the mother and three children. In all other cases the families were intact. The number of children per family averaged 2, varying from one to four. The SES of the families was above average.

**Procedure.** Every participated in one session. The families were recruited within the area of Mannheim (city with 300000 inhabitants in Germany) through causal contacts with friends and through other participants in the study. The families were seen in their own houses, with each session lasting approximately 30 min. Both, mothers and daughters, were asked to choose a conflict relevant to their life. In case they couldn't decide, a list with common conflictual issues drawn from the literature was presented to them. They were asked to discuss two conflicts in a balanced sequence. Subsequently, both persons had to rate the conversation according to a number of variables: natural-artifical, pleasant-unpleasant, conflictual, issue important, feeling superior, etc. The sessions were transcribed according to rules that have been developed by linguists for research projects in the Heidelberg/Mannheim research group. The data were analyzed into speech units, using the Mannheim Category System for Mother-Daughter Conflicts (MACS, see Hofer et al., 1990). Discourse with low authenticity was excluded. Artificiality (low external validity) occurred, when the investigator explicitly was included in the discourse, when one of the participants seemed inhibited in the way she spoke, or when participants rated the discourse as artificial. Four discourses were excluded from the analysis.

**The category system (MACS).** Each verbal activity has been defined as a unit which can be regarded as a self-contained statement referring to a topic. A set of criteria has been developed to define the units by content instead of formal criteria like sentence or turn. Coder correspondence for unit identification was 94.5%. Units have been coded according to the category system devised in order to assess the main theoretical constructs outlined above. Table 3 displays the categories of argumentative elements and argumentative functions (second page) together with examples. Objectivity measures are computed as interrater-reliabilities for each category. They are of acceptable height. As reliability estimates the correlations of the categories between the two discourses have been computed. They partially turned out to be low, but they underestimate stability because of varying issues in the two discourses.

table 3

## 4. Results

The conflicts that the participants chose to discuss were everyday themes like chores, school, dating, and lack of consideration. This fits into the picture presented in the literature (e.g. Smetana, 1989). With increasing age of the daughter themes regarding control of the behavior of the daughter decreased.

**Differences on the daughter's side.** Statistical comparisons between the two groups are to be presented for daughters and mothers and for the dimensions of argumentative elements and argumentative functions separately. To test the first hypothesis, hierarchical log-linear analysis was run (see Fienberg, 1987) with the factors "age of the daughter", "role in the family" and "argument category". The saturated model fitted best. Table 4 shows the partial association for main and interaction effects.

table 4

The significance of the interaction age x category confirms the assumption of age-differences in the categories. The significant interaction age x role indicates that age differences for mothers and daughters are different.

In order to get a closer look at the variables and to test the hypotheses concerning individual differences single t-tests have been used with each discourse regarded as a unit. Table 5 contains the results for the argument categories.

table 5

Significant effects occured for the variables "initiatives", "reactions", "norms", and "conclusion (self-self)". Older girls verbalized fewer initiatives and reactions and more norms and conclusions compared with younger daughters. In those categories which did not reach the significance, the mean differences were in the expected direction, with exception of preferences and facts. Older girls expressed more of them instead of less. With these few exceptions, the hypotheses regarding daughters verbal behavior were confirmed.

table 6

Table 6 reports results for the categories of argumentative function. Significant differences between younger and older girls were found for the categories "rejection of argument", "additional argument", and "modifying argument". The older girls gave more additional arguments and modified their position to a greater degree than younger. Younger girls expressed more rejections to arguments of the mother. Other differences did not reach the level of significance, though being in the predicted direction (counter-argument, supportive argument, and agreement to argument).

To determine groups of persons with similar argumentative patterns regardless of age the method of hierarchical cluster-analysis has been used. Criteria for the number of clusters were the increase of heterogenity and the homogenity of the clusters. The three

cluster solution has been chosen to describe best the homogeneity and variability in the data of the daughters.

table 7

Table 7 contains the means of the three clusters. Daughters constituting the first cluster were youngest and used many initiatives and few self-related facts and norms. The oldest girls expressed the most self-related and externally related facts and norms. In other variables with significant effects, a U-shaped relation with age occured. It was the middle group which expressed most acceptance of initiatives, the lowest number of evaluations, the highest number of preferences, and the lowest number of externally related facts.

To prove the selectivity of the clusters, discrimant analysis has been calculated which resulted in two significant discriminant functions (Chi-Square = 78.9). All cases were correctly classified.

The same analysis has been made for the categories of the argumentative function dimension. The results are depicted in table 8.

table 8

An U-shaped relation with age occurs here, too. The youngest group is characterized by a pattern which shows very few argumentative relations. The middle age group shows a lot of counterarguments and only a few modifying arguments. The oldest group showed the most supportive, additional and modifying arguments and expressed rarely counter-arguments. A discriminant analysis resulted in two significant discriminant functions (Chi-Square = 56.8 and 13.8).

In order to compare the results obtained by the two analyses the contingent coefficient between the clusters of argument categories and clusters of argumentative function has been computed. It turns out to be quite low (CC = .39). The probability is high that an individual falls in different clusters. A high correspondence can be seen only in the respective third clusters.

**Differences on the mother's side.** The same analyses were conducted with mothers' data. Only one effect in the dimension "argument categories" turned out to be significant. Taking into account the inflation of the alpha-error, the expectations were not supported. Regarding the dimension of argumentative function significant effects occured for the categories rejection of argument and modifying argument. Mothers of older daughters rejected fewer arguments of the daughters and modified their position to a higher degree than mothers of younger daughters.

In cluster analyses for mothers dimension of argument categories, three clusters were chosen for reasons of comparison. The clusters do not correlate with the age of the daughter. Clusters 1 and 2 are characterized by many initiatives and acceptances and by few connections. Mothers in the third cluster seldom expressed initiatives along with many norms and connections. One discriminant function is significant (Chi Square = 63.8).

For the dimension of argumentative function the resulting three clusters could clearly be separated through each of the variables (see table 9). The two discriminant functions were significant (Chi-Square = 58.1 and 23.8). The subjects in the first cluster are characterized by low numbers in each of the variables. In the second cluster, mothers used mainly counterarguments in their utterances. And mothers in the third cluster have in common high frequencies in additional and modifying arguments. These groups are very similar to those found in the daughter analysis. But obviously they do not belong to the same dyads.

table 9

In comparing the two analysis computed for mothers, the contingency coefficient between the clusters of argument categories and clusters of argumentative function is .40.

## 5. Discussion and conclusions

The results of this study add to our understanding of the social interactions between parents and adolescents in the process of transforming their relationship from a unilateral to a more reciprocal one. Age differences appeared in argumentation behavior of daughters, in the dimensions of argument category as well as argumentative function. Because of the curvilinear relationship of some variables with age, differences between daughters are even more pronounced when using cluster analyses. Because of the low number of cases, it seemed unwise to break down the sample in three age groups. It seemed reasonable to rely interpretations more on the clusters. The fact that the resulting clusters for the two dimensions do not correspond might be due to a two-dimensional developmental process.

Younger girls mainly rejected or accepted arguments of the mother. They uttered only few arguments and expressed a high number of initiatives. This is be seen as reflecting a low ability or willingness to justify ones own goals. The high amount of initiatives and the low argumentative character of younger girls reflects a more disputative than reasoned interaction. The girls demonstrated "verbal force" or unilateral power. This pattern of overall low argumentation emanates even more clearly in the first cluster of the cluster analysis.

Our expectation that younger adolescents would rely on preferences was not sustained. This was central to the conceptualization that self-assertion is the first step in the separation process, and preference is the main indicator. The meaning of self-assertion has to be reconsidered. It could be split in two consecutive substages with "unilateral force" as the first and "preference" as the second.

Preferences do not discriminate beween the age groups but are most frequent in the second cluster. Daughters in the second cluster show also a high rate of acceptance of initiatives, few rejections of arguments, and few argumentation categories with the exception of preferences. Considering the dimension of argument categories alone, we find the tendency to express self-assertion through "preferences" together with a high tendency

to comply mith mothers' wishes and arguments, and still arguing at a low level of reasoning.

Looking at the dimension of argumentative function, we find the expected pattern of "criticizing" in the second group, as counterarguments obviously dominate all other categories. Since the subjects in this cluster are not identical with the subjects in the cluster discussed above, the relationship between the stages "preferences" and "criticizing" remains unclear.

According to the tendency of defending their territories, older girls expressed more arguments to strenghten their own position and were better able to modify their position or goal. This mirrors the girls being better able to understand that there can be valid reasons for mutually exclusive viewpoints and, depending on the values and beliefs of the culture as well as the individual, either viewpoint could be considered as legitimate. The decline of preferences, initiatives, and reactions to initiatives along with the expected rise of facts and norms (but not connections) point to the radically different pattern of conversation to be labeled as "construction of arguments". In this case, the third group of the dimensions of argument category and argumentation function do collide. We find low amounts of counter-arguments and a high amounts of supportive, additional and modifying arguments, supporting the hypothesis that these adolescents try to reach symmetry with their mothers in reciprocating arguments at an equal intellectual and social level. No signs of level four were found.

The study presented is not longitudinal. Conclusions about transformations cannot be drawn. Furhermore, the interpretation of differences between mothers and daughters in terms of motivation is speculative, since motivation has not been assessed. Thoug, all in all, the notion of transformation of relationship between adolescents and parents gained support. The correlation has been computed between age and the proportion of daughters' agreement to mothers' agreement relative to their overall reaction to arguments (agree + disagree). This correlation (0.37) is significant. Similarly, the correlation between age and daughters proportion of argumentative acts relative to all verbal utterances (argumentative + initiatives + reactives) amounts 0.35 and reaches the significance level. Obviously, daughters' verbal behavior tends to become more reciprocal with mothers'.

The initial conception of levels has to be modified. Young adolescents do not mostly criticize their mothers nor do they mainly express preferences. They seem to avoid expressing arguments, instead tending to exchange initiatives. Their reasoning level seems to be very low. They seem to control mothers' behavior using unilateral force. This could be due of the fact that conceptions of equality are not developed enough or are not applied in conflictual situations with mothers. The interpretation, however, has to be regarded as preliminary, as the resulting clusters in the two analyses didn't converge. The respective second clusters did not converge too. In this case, however, they point to two different levels. The "preferential" argumentation style is visible in the argument category dimension, coupled with a high amount of overall acceptance. In the argumentation function dimension, a "criticizing" pattern arises. Since there is no correspondence in the underlying subjects, the label of "levels" should be used in a very informal way. The most obvious result can be found in the oldest group. They show the pattern which stresses the

construction of her own arguments, of justifying her own position in using facts and norms and in modifying statements of her own and her mothers'.

The results of the study show that it might be appropriate to modify the levels of argumentation. Before level 1 a new level "unilateral force" has to be introduced. The study can give no further evidence about this, since it lacks any external or criterion variable besides age. In a second study under way we will be able to test the new conception by including new variables including moral reasoning.

Comparing the results with findings from the literature, the overall quality of argumentation is lower than might be expected from interview studies (Smetana, 1989). Data suggest that the development of argumentative behavior proceeds in smaller steps than is proposed in the literature. Our results do not correspond with the conceptions offered by various authors mentioned in the beginning section of the paper. This seems to be due to several reasons. First, the steps conceived by other authors might not apply to the age groups, type of conversation and dyadic relationship chosen for this study. Second, the concept of individuation study together with a breakdown of argument categories and the inclusion of argumentation functions enables a finer differentiation. On the other hand, the groups found incorporate several features of concepts proposed in the literature. They could be included in broader categorizations as substages, e.g. between levels 1 and 2 of Selman's et al. (1986) conceptualization.

It has been shown in the literature that young persons deal differently with conflictual issues in front of different persons (e.g. Adalbjarnardottir & Selman, 1989; Selman et al., 1986). The research presented explains contextual effects with the motivational tendencies activated by specific partners. The argumentative quality, obviously not extremely high, is a function of the relationship in which they were expressed.

The different patterns found can be regarded as reflecting development in functions besides transforming relationship. The growing intellectual capacity (see Selman et al., 1986) enables the daughters to apply their reasoning ability to deal with the situations more effectively. The data do not reflect a developing ability to differentiate and coordinate perspectives, as in relevant variables significant differences between clusters could not be found. The puberal status might have played a role too.

A striking result of our study refers to the lack of differences between mothers. Mothers of daughters of different ages did not differ in their argumentative behavior. There is a small tendency of mothers to adapt to daughters verbal utterances, in that mothers of younger daughters express less counter-arguments and less modifying arguments. But this is far from what has to expect from three hypotheses: (a) Individuation theory (Smollar & Youniss, 1989) states that mothers and daughters jointly transform their relationship. If this is true some similarities in verbal behavior of both persons have to be expected. (b) Conversation theory states that speaker and listener adapt each other's verbal behavior in order to maintain coherence in the discourse. (c) Developmental theorists on mother-child-interaction point out the adaptation of parents' behavior to the respective capabilities of the child, offering them optimal conditions for development.

Besides the lacking correspondence between daughters and mothers verbal behavior, the sample of mothers could be grouped in clusters with differing argumentative patterns. In the case of argumentative function, the patterns show a very close resemblance to those of the daughters. In trying to interpret this result one can speculate that the levels of argumentation capacity are universal and even adult persons can be characterized by them. However, such an interpretation has to assume, that some mothers are staying on a level below that of their adolescent daughter.

Discussions in the family have been analyzed in the literature in order to identify antecedents of adolescents' personality development (see the studies in Grotevant & Cooper, 1983; Hakim-Larson & Hobart et al. 1986; Peterson et al. 1986). This study does not adress to that issue. In further studies it can be examined, however, if the categories used prove as valid predictors of personality development in both, mothers and daughters.

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| Authors | Clark & Delia (1982) | Keller (1984) | Stein & Miller (1990) | Selman et al. (1986) | Berkowitz et al. (1987) | Miller (1986) |
|---|---|---|---|---|---|---|
| Situation | to persuade an adult | not to keep a promise | not to keep a promise | playing, discussion,clinical interview | discussion moral, religious dilemmas | discussion moral dilemmas |
| Interactive Situation | hypothetical | hypothetical | hypothetical | real and hypothetical | real | real |
| Partner | parents teacher | friend | peer | peer adults | peer | peer |
| Dependent variable | utterance | reasons for behavior | rating of arguments | behavior, answer in interview | utterance | utterance |
| Age | grade 2 to 9 | 7, 9, 12 years | grade 2, 7,high-school students | years 6 to 19 | 6 years and older | 5 to 10 years |
| Levels | 1. no reason<br>2. simple reason<br>3. taking counterarguments into account<br>4. consideration of wishes and advantages of the other | 0. no reason<br>1. to hide reason<br>2. hedonistic reasons<br>3. to consider interests and obligations<br>4. to consider the legitimacy of both partys | 1. personal preferences<br>2. social consequences and rules<br>3. needs of others and society, norms and cultural ideal | 0. physical force<br>1. unilateral power<br>2. persuasion, reciprocal influence<br>3. taking boths interests into account<br>4. to secure intimacy | 0. non-argumentative<br>1. single reason<br>2. to connect arguments<br>3. counter-arguments<br>4. search for truth and justice<br>5. ideal discourse (Habermas) | 0. no reason<br>1. justification<br>2. coherence: to link own and counter-arguments<br>3. circularity: to seperate facts and norms or rules<br>4. significance: to detect that different parties define concepts in a different way |

Table 1: Research on the development of argumentative thinking and behavior

| Variable | Daughters | Mothers |
|---|---|---|
| Number of units | < | > |
| Number of words | > | > |
| **Initiatives** | > | > |
| Requests | > | > |
| Question of justification | > | < |
| Question of clarification | > | < |
| Proposal | > | |
| **Reactions** | | |
| Rejection of initiative | < | < |
| Agreement to initiative | > | > |
| **Preferences** | | |
| Prefer | > | > |
| Decline | > | > |
| **Evaluation** | | |
| Positive evaluation | | |
| Negative evaluation | > | > |
| **Facts** | | |
| Facts (self) | > | < |
| Facts (partner) | < | > |
| **Connection** | | |
| Self/Self | > | < |
| Partner/Partner | < | > |
| Partner/Self | < | > |
| **Norms** | | |
| Norms of territory | < | < |
| Social norms | < | > |
| Norms of equality | < | > |
| Counter-argument | > | > |
| Rejection of argument | > | > |
| Supportive argument | < | < |
| Additional argument | < | < |
| Repetition | < | < |
| Modifying argument | > | > |
| Relativierung | < | < |

**Table 2:** Hypotheses for differences between dyads with younger and older girls

| Category | Examples |
|---|---|
| **INITIATIVES** | |
| Requests | <clean up the kitchen> |
| Question of clarification | <what do you think about it> |
| Question of justification | <why isn't that enough money> |
| Proposal | <you can use the other bathroom> |
| **REACTIONS** | |
| Agreement | <o.k. you are right> |
| Rejection | <no, no you are wrong> |
| **EVALUATIONS** | |
| Positive | <your dress is pretty> |
| Negative | <your hairdo is ugly> |
| **PREFERENCES** | |
| Prefer | <I'd rather read poems> |
| Decline | <I don't like to work in the wineyards> |
| **FACTS** | |
| Self | <I've been in Mannheim all week long> |
| Partner | <you don't do your homework> |
| Boths | <we always have lunch together> |
| Outside | <to ride a motocycle is dangerous> |
| **CONNECTIONS** | <if you spend the night at your boyfriends' your reputation will go down> |
| **NORMS** | |
| Norms of territory | <I have a right to have my own taste> |
| Educational norms | <you have to learn to clean your room> |
| Social norms | <it's not decent to go to church in jeans> |
| Norms of equality | <my brother gets his room cleaned up, too> |
| Norms of Responsibility | <I am responsible for my grades> |
| **METACOMMUNICATION** | <you're stupid is not an argument> |
| **UNCODABLE** | |

**Table 3: Argument categories and examples (a)**

| Category | Examples |
|---|---|
| **Strengthen** | |
| a) supportive argument | <I want to go out tonight><br><because there is no school tomorrow> |
| b) additional argument | <I want to go out tonight><br><because there is no school tomorrow><br><and because there is a party going on> |
| **Modify** | |
| a) modifying argument | <I understand that you are worrying><br><but I am old enough> |
| **Weaken** | |
| a) objection | Mother: <the bathroom looks disgusting><br>Daughter: <that's not only my fault> |
| b) counter argument | Mother: <you know this boy for only three weeks><br>Daughter: <Actually I do know him for six weeks> |

Table 3: Categories of argument function and examples (b)

| | df | CHI-Square | P |
|---|---|---|---|
| **Age x Role** | 1 | 5.4 | 0.02 |
| **Age x Category** | 8 | 31.2 | 0.0001 |
| **Role x Category** | 8 | 178.8 | 0.000 |
| **Age** | 1 | 73.5 | 0.000 |
| **Role** | 1 | 2.4 | 0.12 |
| **Category** | 8 | 2955.0 | 0.000 |

Table 4: Hierarchical log-linear analysis

| Daughters | | | | |
|---|---|---|---|---|
| Age of the Daughters | 12-14 (N = 32) | 15-24 (N = 24) | | |
| | Mean | Mean | t-score | sign. |
| Initiative | 12.05 | 6.82 | 1.58 | ** |
| Request | 1.27 | 0.30 | 1.31 | |
| Question of justification | 2.19 | 1.06 | 0.45 | |
| Question of clarification | 5.52 | 4.83 | 2.13 | |
| Proposal | 3.07 | 0.63 | 0.82 | ** |
| Reactive | 28.48 | 19.53 | 2.36 | ** |
| Rejection | 1.78 | 2.65 | -0.90 | |
| Agreement | 1.27 | 0.30 | 1.58 | |
| Preferences | 4.64 | 6.59 | -0.94 | |
| Prefer | 2.71 | 4.18 | -0.87 | |
| Decline | 1.93 | 2.41 | 0.52 | |
| Evaluations | 5.39 | 6.07 | -0.44 | |
| Positive | 0.62 | 0.90 | -0.95 | |
| Negative | 3.29 | 2.93 | 0.34 | |
| Facts | 36.17 | 41.04 | -1.31 | |
| Self | 19.49 | 22.70 | -1.03 | |
| Partner | 6.05 | 4.89 | 0.78 | |
| Connections | 8.59 | 11.65 | -1.32 | |
| Self/Self | 3.14 | 5.95 | -1.97 | * |
| Partner/Partner | 0.53 | 0.35 | 0.49 | |
| Partner/Self | f.20 | 3.11 | -0.74 | |
| Self/Partner | | | | |
| Norms | 1.16 | 5.36 | -2.17 | * |
| Norms of Territory | 0.00 | 2.17 | -2.73 | ** |
| Social Norms | 0.37 | 1.58 | -1.56 | |
| Norms of Equality | 0.76 | 1.12 | -0.33 | |

*: $p<.05$ **: $p<.01$

Table 5: Means and t-Tests of the argument categories of the two age groups of daughters

| Daughters | | | | |
|---|---|---|---|---|
| **Categories of argmentative function** | | | | |
| | 12 - 14 (N = 32) | 15 - 24 (N = 24) | | |
| | **Mean** | **Mean** | **t-score** | **sign.** |
| Counter-argument | 22.90 | 24.37 | -0.43 | |
| Rejection of argument | 11.59 | 6.10 | 2.58 | ** |
| Supportive argument | 10.73 | 12.83 | -0.87 | |
| Additional argument | 6.70 | 14.08 | -3.39 | ** |
| Agreement to argument | 4.97 | 5.93 | -0.57 | |
| Modifying argument | 4.00 | 6.78 | -1.84 | * |
| Number of units | 28.3 | 30.3 | -0.42 | |
| Number of words | 381 | 493 | -1.42 | |

*: $p < .05$ **: $p < .01$

Table 6: Means and t-tests of the categories of argumentative functions of daughters

| Daughters | | | | |
|---|---|---|---|---|
| Argument categories | | | | |
| | Cluster 1 | Cluster 2 | Cluster 3 | sign. |
| Initiative | 15.7 | 7.1 | 7.7 | ** |
| Acceptance of Initiative | 2.7 | 20.5 | 3.3 | ** |
| Rejection of Initiative | 1.4 | 2.3 | 2.6 | |
| Evaluation (positive) | 2.8 | 1.6 | 2.7 | |
| Evaluation (negative) | 4.1 | 0.7 | 3.6 | * |
| Preference (prefer) | 2.1 | 8.6 | 2.2 | ** |
| Preference (decline) | 1.1 | 4.6 | 2.2 | 10% |
| Fact (self) | 16.6 | 18.9 | 25.3 | ** |
| Fact (partner) | 6.8 | 6.7 | 4.8 | |
| Fact (both) | 1.1 | 0.0 | 1.0 | |
| Fact (outside) | 8.9 | 3.1 | 16.0 | ** |
| Connections | 13.0 | 6.8 | 9.0 | |
| Norms | 0.2 | 0.3 | 4.7 | * |
| Acceptance of Argument | 4.5 | 6.2 | 5.3 | |
| Rejection of Argument | 4.4 | 4.0 | 6.3 | ** |
| Age of the Daughters | 13.1 (N = 7) | 14.0 (N = 6) | 16.8 (N = 13) | * |

*: $p < .05$ **: $p < .01$

**Table 7:** Means of the 3 clusters of argument categories for daughters and significance one-way F-Tests

| Daughters<br><br>Categories of argumentative function | | | | |
|---|---|---|---|---|
| | **Cluster 1** | **Cluster 2** | **Cluster 3** | **sign.** |
| **Counter-argument** | 17.0 | 40.4 | 22.3 | ** |
| **Supportive argument** | 2.7 | 4.2 | 16.1 | ** |
| **Additional argument** | 2.3 | 3.4 | 13.2 | ** |
| **Modifying argument** | 2.5 | 1.3 | 7.0 | ** |
| **Age of daughters** | 12.8<br>(N=5) | 14.5<br>(N=4) | 16.0<br>(N=17) | |

**: $p < .01$

Table 8: Means of the 3 clusters of argumentative function for daughters and significance of one-way F-test

| Mothers<br>Categories of argumentative function | | | | |
|---|---|---|---|---|
| | **Cluster 1** | **Cluster 2** | **Cluster3** | **Sign.** |
| **Counter-argument** | 14.2 | 28.0 | 15.3 | * |
| **Supportive argument** | 7.0 | 14.6 | 16.5 | ** |
| **Additional argument** | 4.0 | 8.5 | 17.7 | ** |
| **Modifying argument** | 5.9 | 1.5 | 8.9 | ** |
| **Age of daughters** | 13.8<br>(N=7) | 14.3<br>(N=7) | 16.4<br>(N=12) | |

* $p < .05$

** $p < .01$

Table 9: Means of the 3 clusters of argumentative function of mothers and significance of one-way F-tests.